



Physical Education
New Zealand
Te Ao Kori Aotearoa

GenAI in Physical Education

Webinar 22 July 2025

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What to expect

GenAI in Physical Education: Navigating Potential, Pitfalls, and Policy

Generative AI is rapidly transforming the educational landscape—but how do we harness its potential while managing the risks?

This session explores the role of GenAI in teaching and learning, from classroom innovation to institutional policy. We will examine the benefits and challenges of using AI tools with students, discuss strategies for promoting AI literacy, address issues of authenticity, and unpack the latest developments in education-focused AI technology.

Definitions

Artificial Intelligence (AI)

A broad field of computer science focused on creating intelligent agents, which are systems that can reason, learn, and act autonomously, performing cognitive tasks normally requiring human intelligence.

Generative AI (GenAI)

A type of AI that can generate new content, such as text, images, audio, or video, in response to prompts or data inputs. Examples include large language models and text-to-image generators.

Thesis

Salman Khan “...biggest positive transformation education has seen...”

GenAI as personal assistant

GenAI as a 1 to 1 tutor for every student

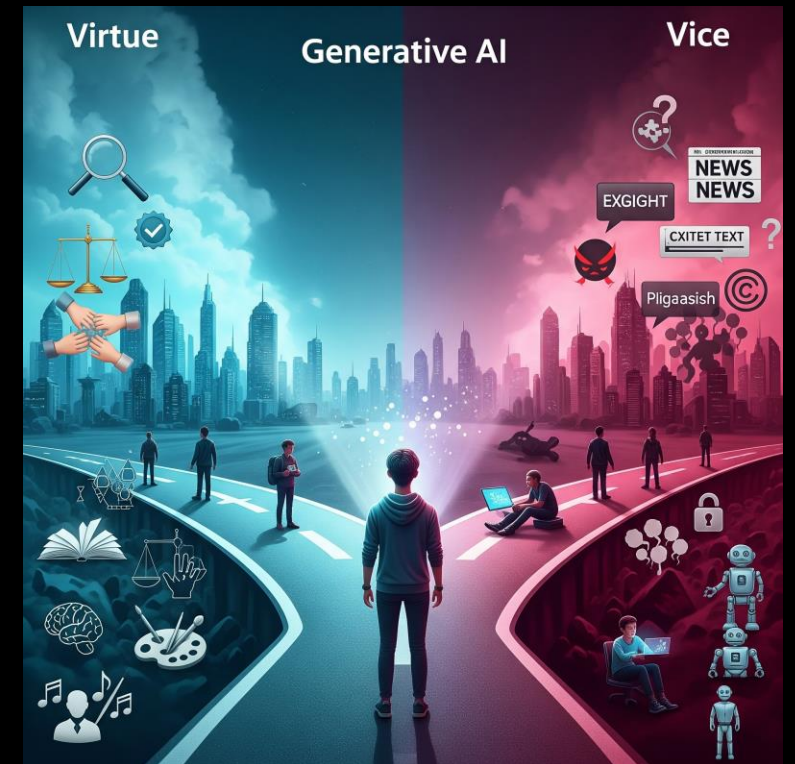


Vice or Virtue?

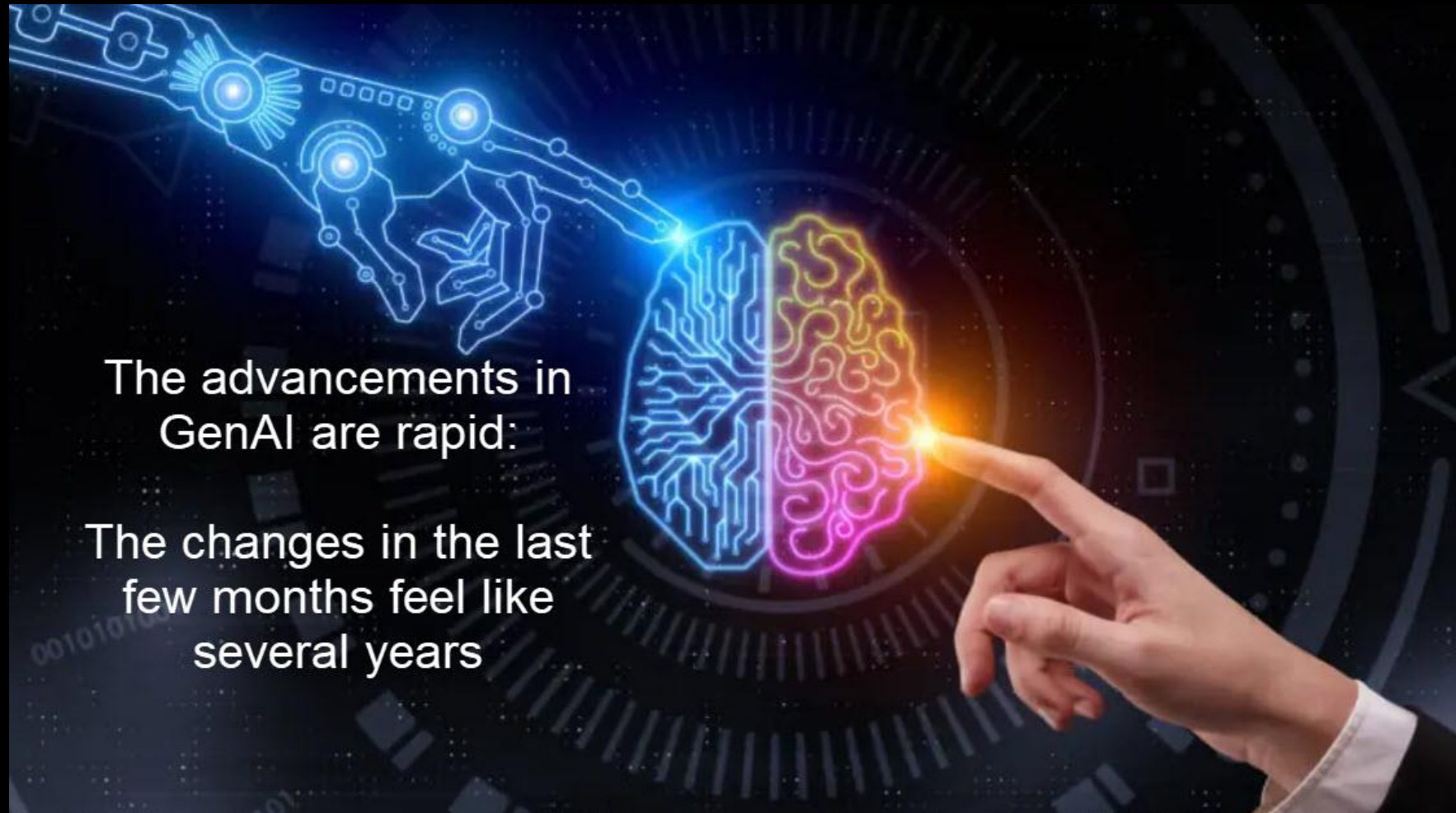
The Choice of Hercules

Vice in the age of GenAI:
Irresponsible and Unethical
GenAI Use

Virtue in the age of
GenAI: Responsible and
Ethical GenAI Use



The GenAI Landscape



The advancements in
GenAI are rapid:

The changes in the last
few months feel like
several years



9 months

July 22 - April 23
"Watercolour of two children studying on the floor,
high quality' DALLE-2."

Even with the same prompt, DALL-E 3 significantly improves upon DALL-E 2.



DALL-E 2 · An expressive oil painting of a chocolate chip cookie being dipped in a glass of milk, depicted as an...

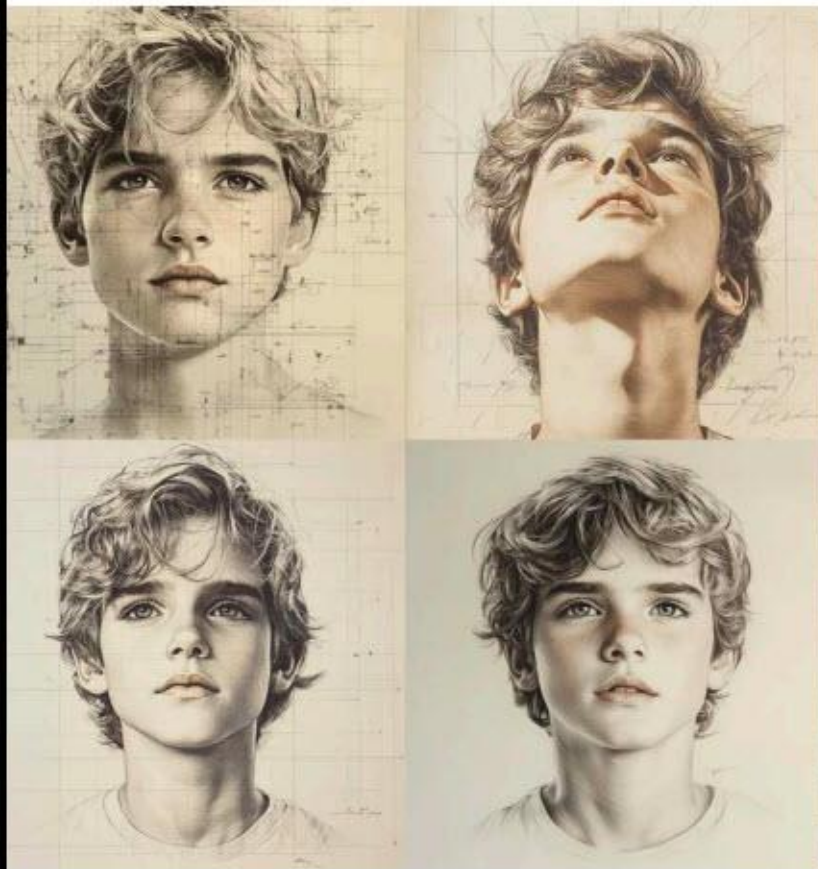
+



DALL-E 3 · An expressive oil painting of a chocolate chip cookie being dipped in a glass of milk, depicted as an...

+

Midjourney 6.1



Creative Domains?

Dalle 3

Text to image



Suno

Text to song



Better than Before

A hard rock anthem about a tight-knit band of PE teachers from Shirley Boys High School that embrace banter and innovative pedagogy. They value Better than Before as a defining philosophy.

ChatGPT



Made for the price of 60 cheeseburgers



Impact?

71% Of Social Media Images Now AI-Generated

This probably won't be a surprise for anyone who has looked at their social media feed recently. The dominance of AI-generated imagery has transformed social platforms into showcases for synthetic creativity. The exciting part is that it continues to dramatically lower barriers to visual content creation for brands and influencers alike, but, of course, it also raises important questions about authenticity in digital spaces.

34 million AI-Generated Images Created Daily

Using one of over 2,000 AI image generation tools available online. This staggering daily output represents a fundamental shift in visual content creation, with businesses and individuals increasingly relying on AI to produce everything from marketing materials to conceptual designs without traditional creative constraints or costs.

Data Centers To Consume 5% Of U.S. Power, Doubling By 2030

This is projected to more than double, reaching 11% by 2030, with 20% of that accounted for by AI. This increases the urgency of making data centers more energy efficient and finding cleaner ways to power them. AI's rapidly growing energy footprint represents one of the industry's most significant challenges as it is putting technological advancement at odds with environmental goals unless major breakthroughs in computing efficiency or energy generation occur.

<https://www.forbes.com/sites/bernardmarr/2025/03/10/15-mind-blowing-ai-statistics-everyone-must-know-about-now/>

Future of work?



Major transformation of the global labour market over next five years.

The "Key findings" indicate a significant structural transformation of the global labor market is anticipated between 2025 and 2030.

The report estimates that the equivalent of 22% of today's formal jobs will be impacted by this structural churn. This figure is derived from the creation of 170 million new jobs (equivalent to 14% of today's total employment) and the displacement of 92 million jobs (equivalent to 8% of current jobs), resulting in a projected net growth of 78 million jobs (7% of total employment) by 2030.

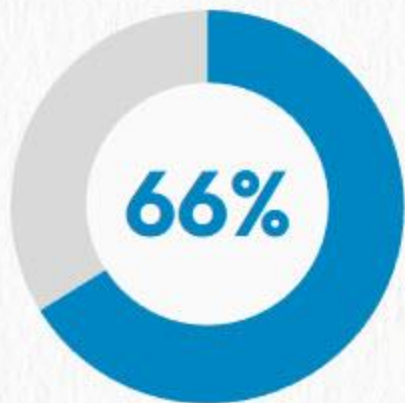
The "Key findings" explicitly state that workers can expect two-fifths (39%) of their existing skill sets to be transformed or become outdated between 2025-2030.

● Workforce Impacts



Employees say generative AI will **create opportunities** for them to learn new skills.

[\(PWC, June 2024\)](#)



Leaders say they **would not hire** someone without AI skills.

[\(Microsoft, May 2024\)](#)

Despite GenAI being well-suited for programming tasks, the Bureau of Labor Statistics projects **the employment of software developers to increase 17.9 percent between 2023 and 2033**, much faster than the 4.0 percent average for all occupations. [\(BLS, Feb 2025\)](#)

● Upskilling in an Age of AI

Of the 15 fastest-growing professional skills in the US, **AI Literacy is number 1.**

[\(LinkedIn News, March 2025\)](#)

The AI shift requires **rapid upskilling**, with AI and big data skills leading the way.

[\(World Economic Forum, Jan 2025\)](#)

Top 5 Fastest Growing Skills by 2030

1. AI and big data
2. Networks and cybersecurity
3. Technological literacy
4. Creative thinking
5. Resilience, flexibility, and agility

[\(World Economic Forum, Jan 2025\)](#)

● How are Teens Using Generative AI?

70% of teens age 13 to 18 say they have used at least one type of generative AI tool.

([Common Sense Media, September 2024](#))

However, **only 40% teens** report having ever used gen AI to help with school assignments.



- **41% teens** used it with their teacher's permission.
- **12% teens** used it, but unsure if with teacher's permission.
- **46% teens** used it without the teacher's permission.

Inevitability

“ YOU HEAR THAT MR. ANDERSON?
THAT IS THE SOUND OF INEVITABILITY! ”

The choiceless choice?

6 July 2025

An open letter from educators who refuse the call to adopt GenAI in education



We are a global community of education professionals who refuse the call for generative AI (GenAI) adoption in schools and colleges, and reject the narrative of its inevitability.

At its heart, education is a project of guiding learners to exercise their own agency in the world. Through education, learners should be empowered to participate meaningfully in society, industry, and the planet. But in its current form, GenAI is corrosive to the agency of students, educators and professionals.

Current GenAI technologies represent **unacceptable legal, ethical and environmental harms**, including exploitative labour, piracy of countless creators' and artists' work, harmful biases, mass production of misinformation, and reversal of the global emissions reduction trajectory.

GenAI is **a threat to student learning and wellbeing**. There is insufficient evidence for student use of GenAI to support genuine learning gains, though there is a massive marketing push to position these products as essential to students' future livelihoods. Young people using anthropomorphised chatbots are vulnerable to

689
signatures
616 verified

Your name

occupation city

organization

email

☐ Send me an email to keep me posted of the results of this open letter

[Sign This Letter](#)

1. Melanie Dusseau, Associate Professor of English, The University of Findlay, Findlay
2. Miriam Reynoldson, Teaching academic, learning designer and postgraduate student, RMIT University, Melbourne

Agent Smith

Things to consider

Considerations

Age Restrictions

Data Sovereignty

Accuracy and bias

Authenticity and Assessment

Solutions

AI Literacy

AI Policy

1. Age Restrictions

Considerations

No use below age 13

Many tools require parental permission between 13-18. E.g. ChatGPT.

Some are 18+

Solutions

Copilot and Gemini in NZ schools are now 13+ by default

Seek parental permission / add to User Agreements

2. Data Sovereignty

Considerations

Where does data go in "free" models?

Ethical concerns if uploading student work

Solutions

Copilot and Gemini in Education Accounts are ringfenced

AI Literacy would include teaching students how to protect data

3. Accuracy

Training data limitations:

Clock example

"I do not have access to real time data"

Retrieval Augmented
Generation



(Increasing) Accuracy

"Small"
Language
Model

Eg
NotebookLM

The screenshot displays the NotebookLM web interface. At the top, the title 'MIT Report: AI's Impact on Cognition and Writing' is visible. The interface is divided into three main sections: Sources, Chat, and Studio.

- Sources:** This panel on the left shows a list of sources. It includes a '+ Add' button, a 'Discover' button, and a checkbox for 'Select all sources'. A single source, 'MIT Impact of AI report.pdf', is listed with a PDF icon and a checkbox.
- Chat:** The central panel shows a chat window. It features a brain icon and the title 'MIT Report: AI's Impact on Cognition and Writing'. Below the title, it indicates '1 source'. The chat content is a paragraph from the report: 'This comprehensive study investigates the neurological and cognitive impacts of using Large Language Models (LLMs) and traditional search engines on human essay writing, comparing them to writing unaided. Employing electroencephalography (EEG) and Natural Language Processing (NLP) analysis, alongside participant interviews and expert scoring, the research reveals significant differences in brain activity and essay characteristics across groups. Findings suggest that reliance on LLMs may reduce cognitive load but also diminish deeper cognitive engagement, leading to lower memory recall and reduced ownership of written content. Conversely, unaided writing fosters broader neural network engagement associated with creative ideation, memory retrieval, and executive control, suggesting a potential trade-off between convenience and cognitive development. The study also highlights potential biases within LLMs and search engines,'. At the bottom of the chat window, there are two input prompts: 'What are the benefits of using GenAI?' and 'How do AI tools distinctly impact cognitive processes and academic performance compared to...'. Each prompt has a '1 source' indicator and a blue arrow button.
- Studio:** The right panel shows the 'Studio' section. It includes an 'Audio Overview' section with a 'Create an Audio Overview in more languages! Learn more' button. Below this is a 'Deep Dive conversation' section with 'Two hosts' and 'Customise' and 'Generate' buttons. At the bottom is a 'Notes' section with an 'Add note' button and several pre-defined note templates: 'Study guide', 'Briefing doc', 'FAQs', and 'Timeline'. A note titled 'GenAI in Education: Benefits and Cogniti...' is also visible.

At the bottom of the interface, a disclaimer states: 'NotebookLM can be inaccurate; please double-check its responses.'

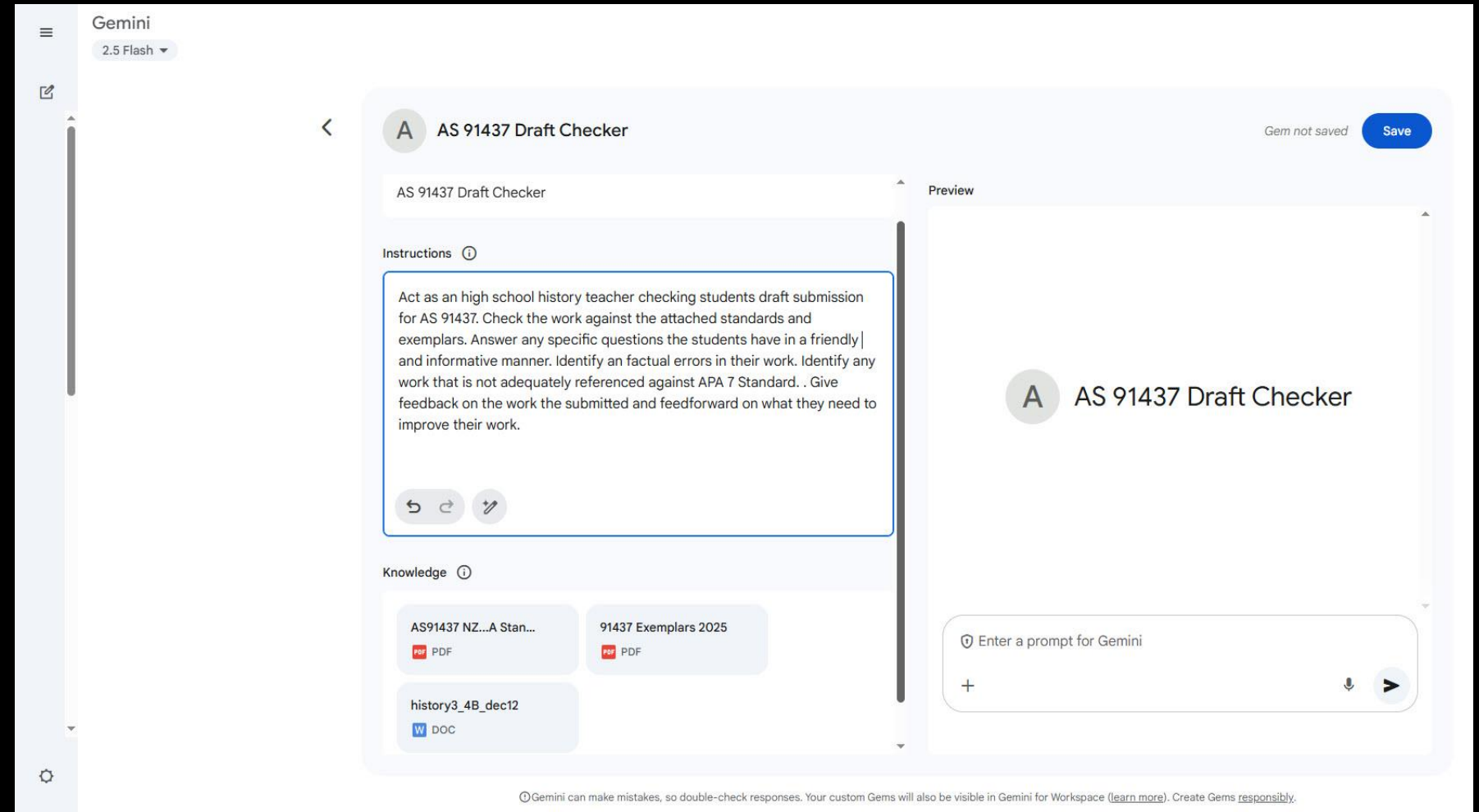
<https://notebooklm.google.com/>

(Increasing) Accuracy

Create an "agent"

Eg Gemini Gem

[Google Gemini](#)



Authenticity and Assessment

Considerations

Detectors = "snake oil"

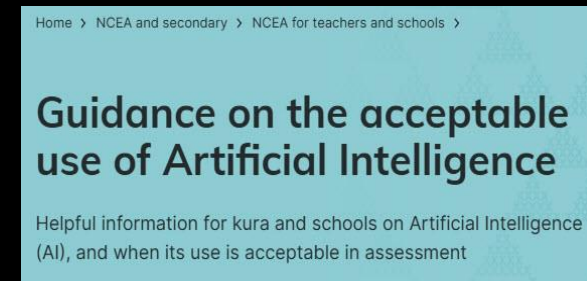
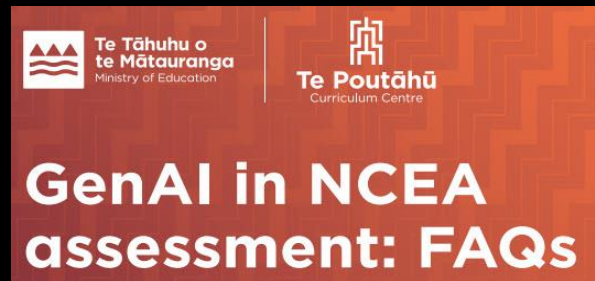
"Better" MoE / NZQA Guidelines

- MoE [FAQs](#)
- NZQA [AI Guidance](#)

Solutions

Encourage AI Literacy

Develop sound policy



AI Literacy

● AI Literacy



AI Literacy encompasses:

- Understanding how AI works
- Using AI responsibly
- Recognizing its social and ethical impacts
- Understanding AI's potential benefits and risks and how to mitigate the risks

Tools to promote AI Literacy

The screenshot displays the Teachable Machine web interface. On the left, there are three class cards: 'Squat', 'Press up', and 'Lunge'. Each card has a red box around its title and another red box around the 'Webcam' button under the 'Add Pose Samples:' section. Below these is a dashed box labeled 'Add a class'. In the center, a 'Training' panel is highlighted with a red box, containing a 'Train Model' button and an 'Advanced' dropdown menu. To the right, a 'Preview' panel is shown with a message: 'You must train a model on the left before you can preview it here.' Above the 'Preview' panel, the text 'Teachable Machine' is written in red, and below it, the text 'Use to teach about databases, quality of data.' is written in red. The top left corner shows the 'Teachable Machine' logo. The bottom right corner has a language dropdown set to 'English' and a version string 'release-2-4-10 - 2.4.10#40c178'.

Teachable Machine

Use to teach about databases, quality of data.

Squat

Add Pose Samples:

Webcam Upload

Press up

Add Pose Samples:

Webcam Upload

Lunge

Add Pose Samples:

Webcam Upload

Add a class

Training

Train Model

Advanced

Preview

Export Model

You must train a model on the left before you can preview it here.

English

release-2-4-10 - 2.4.10#40c178

Policy

Policy provides clarity of acceptable use in individual schools/kura, and is a requirement.

Question

Response

School Strategy and Policy

1. Do schools need to have their own specific AI policy?

Yes. Schools with consent to assess listed standards are required to have an authenticity policy to support assessment practice. This policy must include the acceptable use of AI. School policy should help students, teachers and the school community understand the parameters for GenAI use in learning and assessment.

Clarity - what staff can do

Permitted Uses:

Lesson Planning and Resource Creation: AI tools can be used to assist with generating ideas for lessons, creating learning materials, and finding relevant resources.

Administrative Tasks: AI can be used to automate certain administrative tasks, such as drafting emails or summarizing information, to improve efficiency.

Professional Development: Staff are encouraged to explore AI tools to enhance their own professional learning and understanding of the technology.

Clarity - what staff can't do

Restricted Uses:

Marking Student Work: AI tools should not be used for the primary marking or evaluation of student work. Teachers retain the responsibility for assessing student learning.

Inputting Sensitive Student Data: Staff must exercise extreme caution and avoid inputting sensitive or personal student data into AI tools that may store or reuse this information. Secure and privacy-preserving AI tools should be prioritized.

Clarity - what students can do

Permitted Uses:

Research and Information Gathering: AI tools can be used to gather information and explore different perspectives under the guidance of a teacher.

Brainstorming and Idea Generation: AI can assist in generating ideas and overcoming creative blocks.

Drafting and Editing (with acknowledgement): AI can be used to assist with drafting and editing written work, provided that its use is clearly acknowledged.

Language Learning: AI tools that provide feedback on grammar and pronunciation may be used for language practice.

Clarity - what students can't do

Restricted Uses:

NCEA External Assessments: The use of AI is strictly prohibited in all NCEA external assessments.

Submitting AI-Generated work as your own: Submitting work generated entirely by AI as one's own original work is considered academic misconduct.

Unpermitted use in Internal Assessments: The use of AI in internal assessments is subject to specific guidelines provided by the teacher for each task. Students must clarify with their teacher whether AI use is permitted and to what extent.

Inputting Personal Information: Students should not input their own or others' personal information into free AI tools.

Academic Integrity and AI

Our school upholds the highest standards of academic integrity. In the context of AI, academic integrity means that students must:

- Complete their own work for assessment, demonstrating their own knowledge, skills, and understanding.
- Properly acknowledge and reference any use of AI, where permitted.
- Not misrepresent AI-generated content as their own original work.

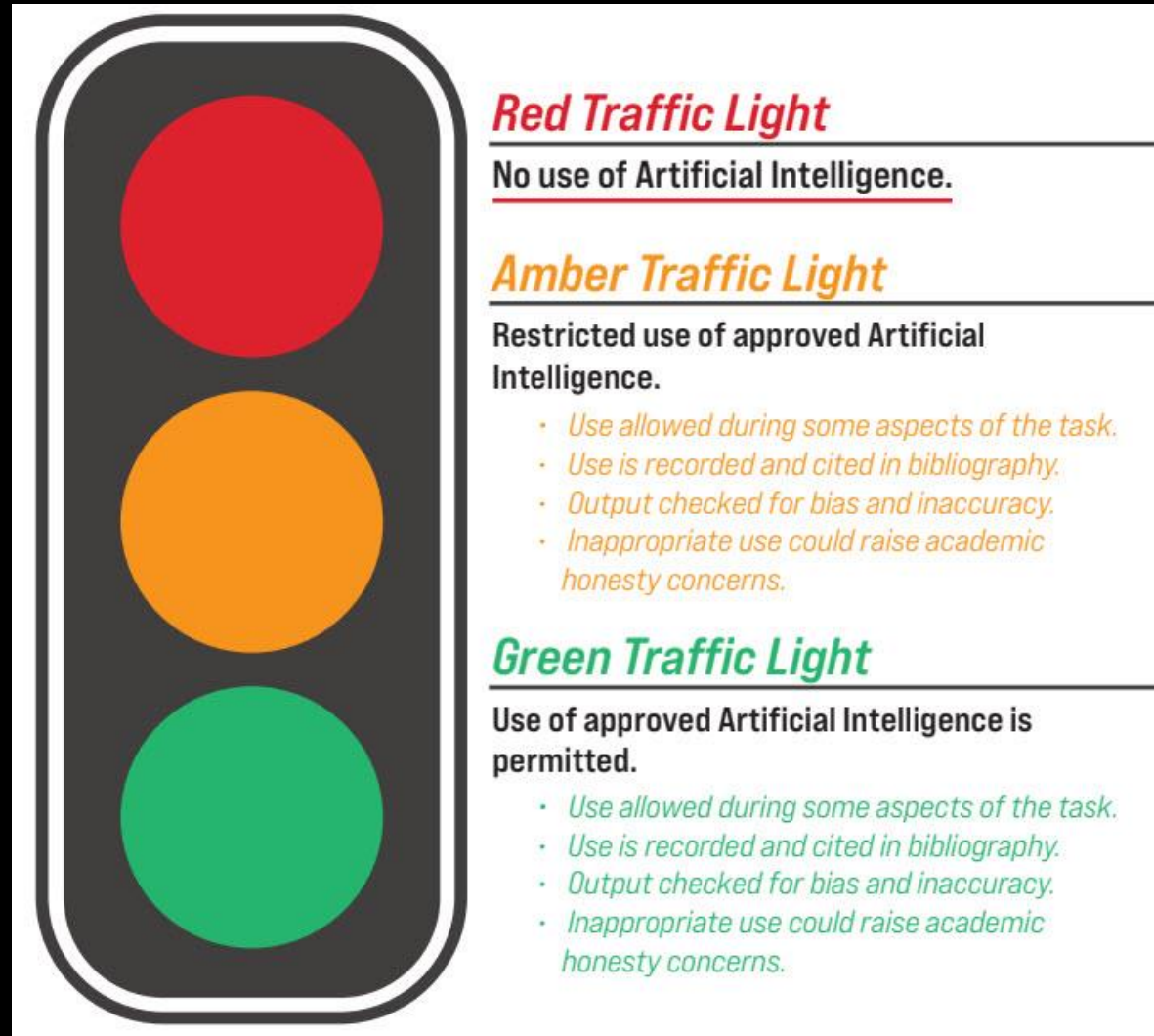
Suspected breaches of academic integrity involving AI will be investigated in accordance with the school's existing academic misconduct procedures.

Academic Context	Permitted AI Use	Prohibited AI Use
Research	Gathering information, exploring different viewpoints, identifying potential sources (with teacher guidance).	Presenting AI-generated summaries or analyses without critical evaluation or proper referencing.
Brainstorming	Generating initial ideas, exploring different angles for projects or assignments.	Submitting AI-generated ideas as solely one's own without further development.
Formative Assessment	Using AI tools for practice quizzes or feedback on drafts (if permitted by the teacher and acknowledged).	Relying solely on AI for answers or completing practice tasks without engaging in the learning process.
Summative Assessment (Internal)	May be permitted for specific tasks as explicitly outlined by the teacher, with clear guidelines on acknowledgement and referencing.	Using AI to generate substantial portions of the assessed work without explicit permission and proper acknowledgement.
Summative Assessment (NCEA External)	Strictly Prohibited.	Using AI in any way to generate responses or content for NCEA external assessments.
General Writing Tasks	Assisting with drafting, checking grammar and spelling (with acknowledgement).	Submitting AI-generated essays or reports as one's own original work.
Creative Projects	Generating initial concepts or exploring different artistic styles (with teacher guidance and acknowledgement).	Presenting AI-generated artwork, music, or other creative content as entirely one's own without significant personal contribution or proper attribution.

Traffic Light

Traffic light system
courtesy of DTTA

Full document [here](#)



Recommendations

Only use Copilot and Gemini in class.

Encourage AI literacy.

- Ethical use of GenAI

Develop clear policy.

- Provide clarity over when GenAI can be used, particularly in assessment

Students should not use GenAI for any writing tasks.

Your Brain on ChatGPT: Accumulation of Cognitive Debt when Using an AI Assistant for Essay Writing Task^Δ

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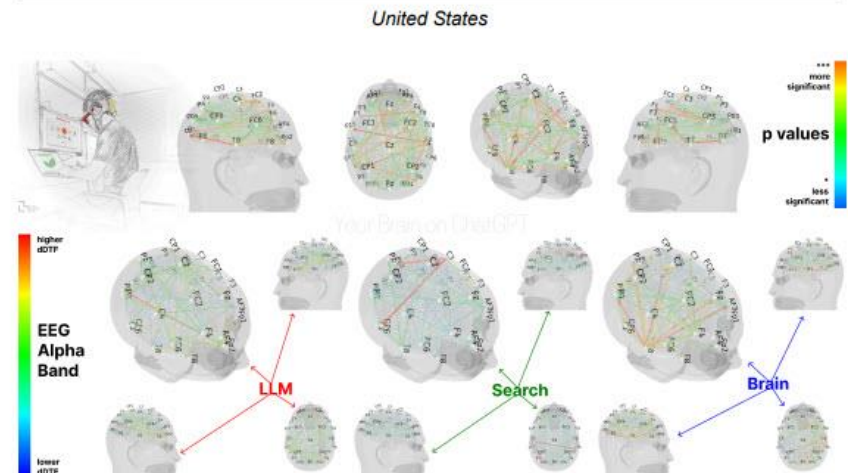


Figure 1. The dynamic Direct Transfer Function (dDTF) EEG analysis of Alpha Band for groups: LLM, Search Engine, Brain-only, including p-values to show significance from moderately significant (*) to highly significant (***).

<https://arxiv.org/pdf/2506.08872v1>

Creative Domains?

Dalle 3

Text to image



Suno

Text to song



Better than Before

A hard rock anthem about a tight-knit band of PE teachers from Shirley Boys High School that embrace banter and innovative pedagogy. They value Better than Before as a defining philosophy.

ChatGPT



Questions?